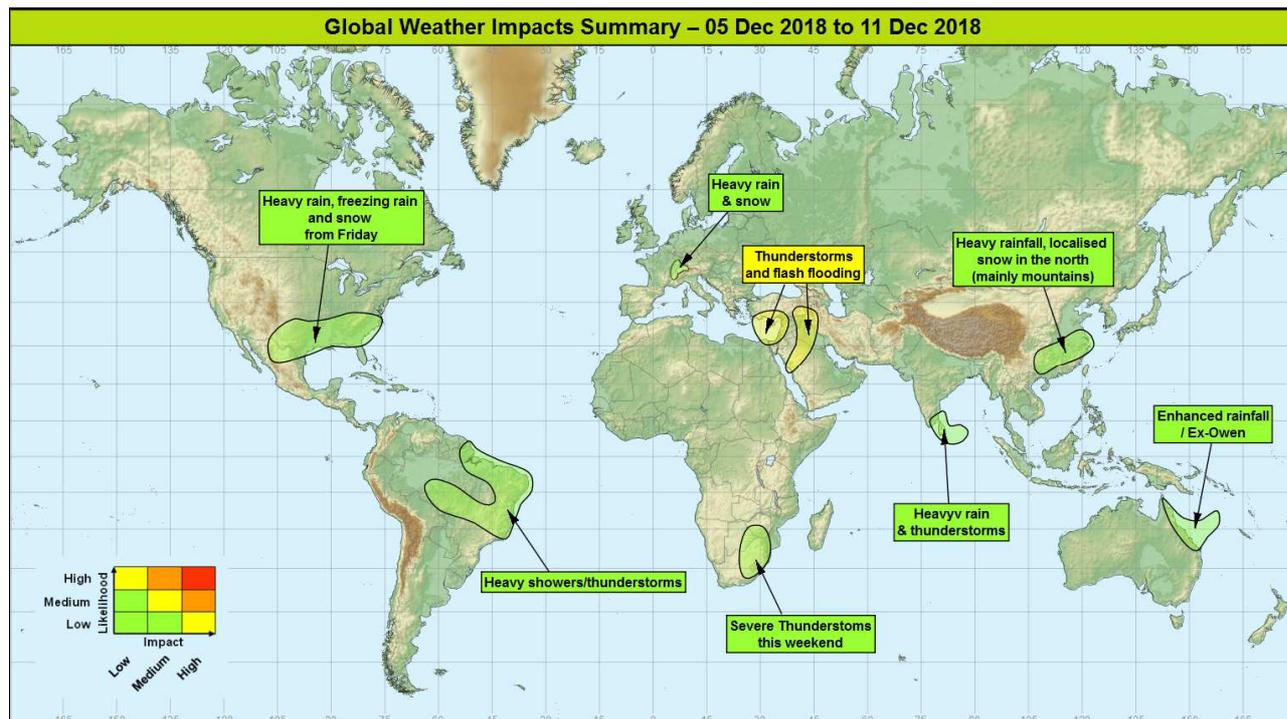


**Global Weather Impacts – Tuesday 4<sup>th</sup> December to Monday 10<sup>th</sup> December 2018**

Issued on Wednesday 5<sup>th</sup> December 2018

**HEADLINES**

- Further heavy rain and thunderstorms across the eastern Mediterranean and parts of the Middle East.
- Heavy snow and freezing rain is possible across the Central Southern USA from Friday.
- 



**DISCUSSION**

**Tropical Cyclones**

There are no active tropical cyclones at this time, with only weak signals for the development of any systems in any ocean basin through the next week.

**Europe**

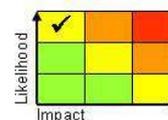
**Eastern Mediterranean**

**Weather**

Further periods spells of heavy showers and thunderstorms are likely to continue across this region for most of the coming week. The heaviest rainfall is expected to be during Wednesday and Thursday, before a brief drier interlude. However, over the weekend, showers will turn heavier and more widespread once again. Locally 50-100mm may fall from these storms each day.

**Discussion**

A cut-off vortex is being repeatedly reinforced by further trough extensions to its rear through the next few days. A combination of this upper forcing and fuelling of convection from warm seas will result in a surface low forming within the broad area of deep convection. The vortex will relax away to the east on Friday, only to be replaced by another upper trough over the weekend.



**This forecast may be amended at any time**

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**Expected Impacts**

Thunderstorms will lead to a continued threat of flash flooding, with additional hazards to from a combination of strong winds, large hail, frequent lightning and a few tornadoes/waterspouts. It's likely that some places will see in excess of 250 mm of rainfall through the next 5 days. Landslides are also possible across more mountainous parts of southern Turkey and Cyprus.

**Switzerland & French Alps**

**Weather**

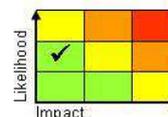
Occasional spells of heavy rain and mountain snow will affect the region from Thursday onwards, with 150-200 mm falling in places by the end of the weekend. Over the weekend, snow will begin to fall to lower-levels and may affect more populated areas in the region while at higher levels some significant falls are likely.

**Discussion**

A succession of active frontal systems will move southeast across central and western Europe, with relatively high WBPT and strong low-level flow leading to marked orographic enhancement to the precipitation. Initially most of the precipitation will fall as rain, but over the weekend snow will fall to begin to fall to lower-levels (800 metres or so).

**Expected Impacts**

Cumulative effect of repeated heavy rainfall may lead to an increased risk of flooding by the weekend. Snow may begin to affect more populated areas of the region by the weekend, leading to disruption to travel. Strong winds likely to lead to blizzard conditions at higher levels.



**North America**

**Northern Mexico and the Southern USA**

**Weather**

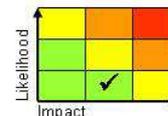
A potent winter storm is expected to form and run east across the southern and south-eastern USA this weekend. Over 200 mm of rainfall is possible in some locations along its path; however along the northern boundary of the precipitation, quite extensive snowfall (up to 20-30cm) is possible. There is also the potential for a narrow swathe of freezing rain (rain which freezes instantly onto surfaces causing a glaze of ice).

**Discussion**

Cold air of Arctic origin is becoming entrenched across the continental United States. This will result in the polar front (and polar front jet) being located at unusually southern latitudes in close proximity to a plume of very warm air drawn north. Within this jet a shortwave trough will quickly run east across the region later next week, and induce cyclogenesis along the polar front. This will produce an area of heavy precipitation, along the northern boundary of which precipitation will fall into cold air and bring both freezing rain and unusual early season snowfall to some southern and central states.

**Expected Impacts**

Heavy rainfall from this event alone is likely to cause some flash flooding across the desert regions of Northern Mexico, New Mexico and eastern Texas. However, the early season snowfall has the potential to bring utility outages and travel disruption to a region where snowfall is less than routine. Where freezing rain occurs, travel disruption and power/utilities outages are likely to be more widespread and significant.



**Central America and Caribbean**

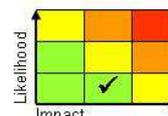
**Northern Mexico** – See *North America* section.

**South America**

**Brazil**

**Weather**

Organised heavy showers and thunderstorms are expected to develop over the next couple of days, bringing 30-50mm of rain in a few hours. Showers are likely to become more sporadic for a time, before a resumption of the more widespread and organised thunderstorms (which could also bring strong winds and the odd tornado) takes place in the south of the region over the weekend. There is the potential, especially in the south of the region, for 200-300mm of rain to fall by the end of the period.



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**Discussion**

An active spell of weather is expected, as one pulse of the South Atlantic Convergence Zone (SACZ) diminishes over the next couple of days, followed by more sporadic showers, and then a resumption of a more active SACZ forced into the S of the area by a strong upper trough. This all takes place in the context of a strengthening Phase 1 MJO, which correlates well with enhanced activity in this region at this time of year. Showers are likely to be heavy with thunder on all days, and along the more active, well forced SACZ organised, MCS or supercell development is possible with the potential for the odd tornado.

**Expected Impacts**

Heavy rain will bring the threat of flash flooding, particularly in urban areas such as Brasilia. In more mountainous terrain, heavy rain over a number of days will increase the risk of landslides. Very localised damage to homes and infrastructure given lightning and isolated tornado threat, and danger to life.

**Africa**

**Northern Egypt** – See *Europe* section.

**Eastern South Africa, Lesotho, Eswatini, S Mozambique, eastern Botswana, Southern Zimbabwe**

**Weather**

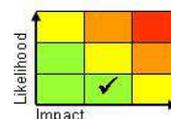
Enhanced and locally severe thunderstorm activity is expected across this region this weekend and into the early part of next week. The storms could produce 75 to 100 mm of rainfall in a short period, with gusty winds and hail possible.

**Discussion**

A sharpening upper trough is expected to drive a cold front across South Africa this weekend. As the trough encounters a warm plume to the east, it will trigger some locally severe thunderstorm activity. Forecast profiles show in excess of 2000 j/kg CAPE, with decent shear through the column supporting some organised and long lasting storms.

**Expected Impacts**

Impacts are likely to include flash flooding and an enhanced landslide risk in mountainous areas. Disruption to travel to and through the region is possible, with the risk of some disruption to power supplies.



**Middle East**

**Iraq, Iran, Syria and Saudi Arabia**

**Weather**

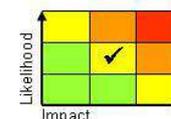
Frequent thunderstorms are forecast to affect this region through the rest of this week, perhaps into the weekend. Each day precipitation totals could reach 25-50mm in a few locations, with this often falling over an hour or so. Over the period some of the wettest locations such as the Zagros Mountains could see in excess of 100mm of precipitation.

**Discussion**

The upper vortex and subsequent troughs responsible for the unsettled weather in the eastern Mediterranean will draw a plume northeast from tropical Africa and the Red Sea across this region. As the vortex engages this plume heavy and locally severe thunderstorms are expected to break out, with storms being a mixture of surface and medium level rooted cells.

**Expected Impacts**

Thunderstorms will lead to a continued threat of flash flooding, with additional hazards to from a combination of strong winds (locally lifting dense dust plumes), large hail, frequent lightning. Landslides are also possible across more mountainous parts of the region.

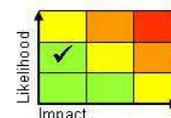


**Asia**

**Sri Lanka and southeast India**

**Weather**

Heavy rain is expected to affect the region from around Wednesday onwards. Daily accumulations of around 25-75 mm are likely and by the end of the week some places may receive up to 250 mm. The heaviest rain is most likely across eastern parts of Sri Lanka. There is a minimal risk that a tropical cyclone could form within this region (across the southern part of the Bay of Bengal) during the early part of next week.



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**Discussion**

The northeast monsoon is expected to become more active though this week, probably in response to the MJO moving into the Indian Ocean.

**Expected Impacts**

Heavy rain will bring the threat of flash flooding. In more mountainous terrain, repeated heavy rainfall events will increase the risk of landslides. If a tropical cyclone were to form in this region next week, the additional hazards of large waves and strong winds would exist over the southern part of the Bay of Bengal.

**Eastern China**

**Weather**

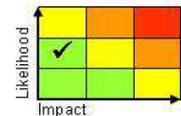
An active cold front is likely to remain slow moving across this region through this week. Pulses of heavy rainfall and thunderstorms are likely to move north-east, with some strong and gusty winds and large hail likely. Up to 100 mm of rain is possible per day in places. Towards the northern limits of the precipitation band snowfall is increasingly likely; whilst much of this is likely to be across the mountains some snowfall to lower levels is possible.

**Discussion**

A strong thermal gradient exists across this region between the frigid, Siberian air to the north, and the moist tropical air to the south. A strong jet aloft will induce waves along the front, bringing pulses of intense rainfall and thunderstorms. These waves will keep the front in a similar location for several days, allowing some large rainfall/snowfall totals to accumulate.

**Expected Impacts**

Flash flooding, large hail and gusty winds could lead to disruption to travel, including the busy shipping lanes through this region. Towards the north of the region snowfall is likely to locally cause additional impacts on transport, utilities and businesses.



**Australasia**

**Queensland, Australia**

**Weather**

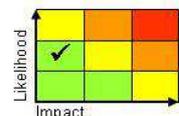
Enhanced but largely welcome rainfall is expected to affect much of eastern Queensland through the coming week. The remnants of tropical cyclone Owen may move west toward the east tropical and/or central Queensland coasts later this week. This could result in locally torrential rainfall developing late in the week, though there remains a large amount of uncertainty associated with the movement of the system.

**Discussion**

Ex-Tropical Cyclone Owen is expected to weaken further in the coming days, probably becoming a broad area of disorganised convection. The track of Ex-Owen continues to be fairly uncertain, although the vast majority of solutions now take the feature slowly and erratically westwards in the direction of Australia. This track will keep Ex-Owen into a region of strong vertical wind shear, with dry medium level air being advected into the systems western flank from the Australian Continent. Both these factors will ensure that the system should not redevelop. Ahead of this a slow moving upper vortex over Queensland will maintain shower and thunderstorm activity within the warm plume.

**Expected Impacts**

Enhanced rainfall may lead to some localised flash flood impacts. Dependant of the track of the remnants of Ex-Owen this may become more prevalent later this week. In general though the rainfall should bring welcome relief from the heat and wildfires which have affected this region recently.



**Additional information**

Nil.

**Issued at:** 050845 UTC **Meteorologist:** Mark Sidaway

**Global Guidance Unit**

**This forecast may be amended at any time**

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